

WHAT IS CLAIMED IS:

1. An apparatus for correcting start-up deficiencies in an amplifier including (i) a first portion having output stage transistors forming differential output ports and (ii) a second portion having input stage transistors, a common source voltage being representative of a voltage across sources of the input stage transistors, the apparatus comprising:

means for comparing the common source voltage to a predetermined reference voltage;

means for producing a compensating voltage based upon the comparison; and

means for adjusting a voltage associated with the differential output ports in accordance with the compensating voltage.

2. An apparatus for correcting start-up deficiencies in a differential amplifier including a startup mechanism, the amplifier including (i) a first circuit node formed of a junction of sources of output stage transistors, gates of the output stage transistors forming differential output ports and (ii) a second circuit node formed of a junction of sources of input stage transistors, a second circuit node voltage being representative of a voltage level of the second circuit node;

the startup mechanism including:

a comparator having inverting and non-inverting input ports and an output port; and

first and second transistors having (i) gates connected to the comparator output port, (ii) drains respectively connected to the gates of the output stage transistors, and (iii) sources connected to the first circuit node;

the apparatus comprising:

means for comparing the second circuit node voltage to a reference voltage;

means for producing a compensating voltage based upon the comparison; and

means for adjusting a voltage associated with the differential output ports in accordance with the compensating voltage.

3. The apparatus of claim 2, wherein the comparing means is configured to receive the reference voltage at the non-inverting input port and receive the second circuit node voltage at the inverting input port.

4. The apparatus of claim 2, wherein the compensating voltage is produced when the second circuit node voltage is less than the reference voltage.

5. The apparatus of claim 2, wherein the means for adjusting is configured to (i) receive the compensating voltage in the first and second transistors, (ii) activate the first and second transistors based upon the received compensating voltage, and (iii) deactivate the first and second transistors when the second circuit node voltage becomes greater than the reference voltage.